

Attorney's Docket No.: 09010-029009

1657  
#8  
Dmt  
10-23-02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Jay M. Short

Art Unit : 1651

Serial No. : 10/034,985

Examiner : Unknown

Filed : December 21, 2001

Title : RECOMBINANT BACTERIAL PHYTASES AND USES THEREOF

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Commissioner for Patents  
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

Enclosed for filing in the above-referenced patent application are a new Form PTO-1449 and two Form PTO-1449s from a parent application, being submitted prior to the first Office Action on the merits. Applicants respectfully request consideration of the remarks and references set forth herein.

The following documents are enclosed herewith:

- Copy of two Form PTO-1449 from parent application;
- New Form PTO-1449 to be initialed and a copy returned to Applicants; and
- Postcard.

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P. O. Box 2327, Arlington, VA 22202.

9/9/2002

Date of Deposit

Signature

Debbrah K. Sim

Typed or Printed Name of Person Signing Certificate

Applicant : Jay M. Short  
Serial No. : 10/034,985  
Filed : December 21, 2001  
Page : 2

Attorney's Docket No.: 09010-029009

REMARKS

The references cited on attached forms PTO-1449 are being called to the attention of the Examiner. It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

The two Form PTO-1449 were submitted on December 27, 2000 and September 9, 2002, respectively, in the parent application U.S. Serial Number 09/580,515. In accordance with 37 CFR §1.98(d), copies of the references cited in the parent application are not included in this submission (MPEP §609A(2)); however, for the Examiner's convenience, if requested, Applicants will provide a copy of any or all of the references cited therein.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

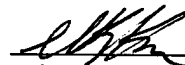
Applicants believe that no fee is required for submission of this statement, since it is being submitted prior to the first Office Action. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 06-1050. If necessary, please deduct any necessary additional fees from, or credit any overpayment to, the above-noted Deposit Account.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 858 678 4392.

Respectfully submitted,

Date: \_\_\_\_\_

9/9/02



\_\_\_\_\_  
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Substitute Form PTO-1449

U.S. Department of Commerce  
Patent and Trademark Office

Attorney's Docket No.

09010-029009

Application No.

10/034,985

**Information Disclosure Statement  
by Applicant**

(Use several sheets if necessary)

Applicant

Jay M. Short

Filing Date

December 21, 2001

Group Art Unit

1651

**U.S. Patent Documents**

Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	5,366,736	11/22/1994	Edwards, Jr.			
	AB	5,436,156	7/25/1995	Van Gorcom et al.			
	AC	5,593,963	1/14/1997	Van Ooijen et al.			
	AD	5,830,696	11/3/1998	Short			
	AE	5,939,303	8/17/1999	Cheng, et al.			
	AF	6,190,897 B1	2/20/2001	Kretz			
	AG						

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**Foreign Patent Documents or Published Foreign Patent Applications**

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AH	WO 99/08539	2/25/1999	Europe				
	AI	EP 0 897 985 A2	2/24/1999	Europe				
	AJ	0 282 042B1	6/8/1994	Europe			Abstract only	
	AK							

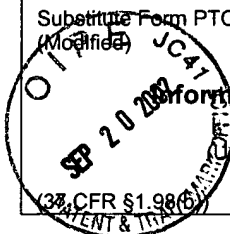
**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
	AL	Stephen F. Altschul, Warren Gish, Webb Miller, Eugene W. Myers and David J. Lipman, "Basic Local Alignment Search Tool", 1990, Academic Press Limited, J. Mol. Bio. Vol. 215, pp. 403-410
	AM	Henrik Brinch-Pedersen, Annette Olesen, Soren K. Rasmussen & Preben B. Holm, "Generation of Transgenic Wheat ( <i>Triticum aestivum</i> L.) for Constitutive Accumulation of an <i>Aspergillus</i> Phytase", 2000, Molecular Breeding, pp. 195-206
	AN	Janie Dassa, Christian Marck, and Paul L. Boquet, "The Complete Nucleotide Sequence of the <i>Escherichia coli</i> Gene <i>appA</i> Reveals Significant Homology between pH 2.5 Acid Phosphatase and Glucose-1-Phosphatase", September, 1990, Journal of Bacteriology, Vol 172, No. 9, pp. 5497-5500
	AO	J. Dvorakova, "Phytase: Sources, Preparation and Exploitation", 1998, Folia Microbiol, Vol. 43(4), pp. 323-338
	AP	Lori Giver, Anne Gershenson, Per-Ola Freskgard, and Frances H. Arnold, "Directed Evolution of a Thermostable Esterase", October, 1998, National Academy of Sciences, Vol. 95, pp. 12809-12813
	AQ	R. Greiner, U. Konietzny, and Kl.-D. Jany, "Purification and Characterization of Two Phytases from <i>Escherichia coli</i> ", May 15, 1993, Archives of Biochemistry and Biophysics, Vol. 303, No. 1, pp. 107-113
	AR	M. Lehmann, L. Pasamontes, s. F. Lassen, M. Wyss, "The Consensus Concept for Thermostability Engineering of Proteins", 2000, Biochimica et Biophysica Acta, Vol. 1543, pp. 408-415

Examiner Signature

Date Considered

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

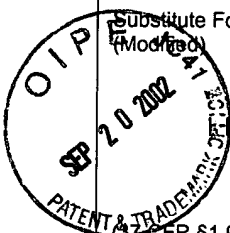
Substitute Form PTO-1449 (Modified)  (37 CFR §1.98(b)) PATENT & TRADEMARK	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 09010-029009	Application No. 10/034,985
	<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)		
	Applicant Jay M. Short		Group Art Unit 1651
		Filing Date December 21, 2001	

**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
	AS	Lutz Jermutus, Michel Tessier, Luis Pasamontes, Adolphus P.G.M. van Loon, and Martin Lehmann, "Structure-based Chimeric Enzymes as an Alternative to Directed Enzyme Evolution: Phytase as a Test Case", 2001, Journal of Biotechnology Vol. 85, pp. 15-24
	AT	William R. Pearson and David J. Lipman, "Improved Tools for Biological Sequence Comparison", April 1988, National Academy of Sciences, Vol. 85, pp. 2444-2448
	AU	Jan Pen, Theo C. Verwoerd, Peter A. vanParidon, Rob F. Beudeker, Peter J.M. van den Elzen, Kees Geerse, Jan D. van der Klis, Hans A. J. Versteegh, Albert J.J. van Ooyen and Andre' Hoekema, "Phytase-containing Transgenic Seeds as a Novel Feed Additive for Improved Phosphorus Utilization", July, 1993, Bio/Technology Vol. 11, pp. 79-82
	AV	Eric Rodriguez, Yanming Han, and Xin Gen Lei, "Cloning, Sequencing, and Expression of an <i>Escherichia coli</i> Acid Phosphatase/Phytase Gene (appA2) Isolated from Pig Colon", 1999, Biochemical and Biophysical Research Communications, Vol. 257, pp. 117-123
	AW	J. Rozas and R. Rozas, "DnaSP, DNA Sequence Polymorphism: An Interactive Program for Estimating Population Genetics Parameters from DNA Sequence Data", 1995, Cabios, Vol. 11 No. 6, pp. 61-625
	AX	Andrea Tomschy, Michel Tessier, Markus Wyss, Roland Brugger, Clemens Broger, Line Schnoebelen, Adolphus P.G.M. van Loon, and Luis Pasamontes, "Optimization of the Catalytic Properties of <i>Aspergillus-fumigatus</i> Phytase Based on the Three-dimensional Structure", 2000, Protein Science, pp. 1304-1311
	AY	T. C. Verwoerd, A. Hoekema, P. A. van Paridon, A.J.J. van Ooyen, & J. Pen, "Phytase-enriched Transgenic Seeds as a Novel Feed Additive", 1993, Med. Fac. Landbouww. Univ. Gent. No. 58/4a, pp. 1719-1721
	AZ	Costantino Vetriani, Dennis L. Maeder, Nicola tolliday, Kitty S.-P. Yip, Timothy J. Stillman, K. Linda Britton, David W. Rice, Horst H. Klump, and Frank T. Robb, "Protein Thermostability Above 100°C: A Key Role for Ionic Interactions", October, 1998, National Academy of Sciences, Vol. 95, pp. 12300-12305
	AAA	Gunnar von Heijne, A New Method for Predicting Signal Sequence Cleavage Sites", 1986, Research Group for Theoretical Biophysics, pp. 4683-4690
	ABB	Markus Wyss, Roland Brugger, Alexandra Kronenberger, Roland Remy, Rachel Fimbel, Gottfried Oesterhelt, Martin Lehmann, and Adolphus P.G.M. van Loon, February, 1999, Applied and Environmental Microbiology, Vol. 65, No. 2, pp. 367-373
	ACC	Database accession No. AR130956
	ADD	Database accession No. AAX26540
	AEE	Database accession No. P07102

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Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

	Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 09010-029005	Application No. 09/580,515
	<b>SUPPLEMENTAL Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)			Applicant Jay M. Short et al.
				Filing Date May 25, 2000

**U.S. Patent Documents**

Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AAA	5,366,736	11/22/1994	Edwards, Jr.			
	AAB	5,436,156	7/25/1995	Van Gorcom et al.			
	AAC	5,830,696	11/3/1998	Short			
	AAD	5,939,303	8/17/1999	Cheng, et al.			
	AAE	6,190,897 B1	2/20/2001	Kretz			
	AAF						

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**Foreign Patent Documents or Published Foreign Patent Applications**

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AAG	0 282 042B1	6/8/1994	Europe			Abstract only	
	AAH							

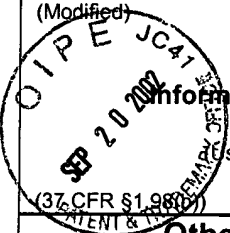




**Other Documents (include Author, Title, Date, and Place of Publication)**

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	AAI	Henrik Brinch-Pedersen, Annette Olesen, Soren K. Rasmussen & Preben B. Holm, "Generation of Transgenic Wheat ( <i>Triticum aestivum</i> L.) for Constitutive Accumulation of an <i>Aspergillus</i> Phytase", 2000, Molecular Breeding, pp. 195-206
	AAJ	J. Dvorakova, "Phytase: Sources, Preparation and Exploitation", 1998, Folia Microbiol, Vol. 43(4), pp. 323-338
	AAK	Lori Giver, Anne Gershenson, Per-Ola Freskgard, and Frances H. Arnold, "Directed Evolution of a Thermostable Esterase", October, 1998, National Academy of Sciences, Vol. 95, pp. 12809-12813
	AAL	R. Greiner, U. Konietzny, and Kl.-D. Jany, "Purification and Characterization of Two Phytases from <i>Escherichia coli</i> ", May 15, 1993, Archives of Biochemistry and Biophysics, Vol. 303, No. 1, pp. 107-113
	AAM	M. Lehmann, L. Pasamontes, s. F. Lassen, M. Wyss, "The Consensus Concept for Thermostability Engineering of Proteins", 2000, Biochimica et Biophysica Acta, Vol. 1543, pp. 408-415
	AAN	Lutz Jermutus, Michel Tessier, Luis Pasamontes, Adolphus P.G.M. van Loon, and Martin Lehmann, "Structure-based Chimeric Enzymes as an Alternative to Directed Enzyme Evolution: Phytase as a Test Case", 2001, Journal of Biotechnology Vol. 85, pp. 15-24
	AAO	Andrea Tomschy, Michel Tessier, Markus Wyss, Roland Brugger, Clemens Broger, Line Schnoebelen, Adolphus P.G.M. van Loon, and Luis Pasamontes, "Optimization of the Catalytic Properties of <i>Aspergillus-fumigatus</i> Phytase Based on the Three-dimensional Structure", 2000, Protein Science, pp. 1304-1311

Examiner Signature

Date Considered

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Substitute Form PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office		Attorney's Docket No. 09010-029005	Application No. 09/580,515
 <p><b>SUPPLEMENTAL</b> <b>Information Disclosure Statement</b> <b>by Applicant</b> (Use several sheets if necessary)</p>				Applicant Jay M. Short et al.	
				Filing Date May 25, 2000	Group Art Unit 1652
<b>Other Documents (include Author, Title, Date, and Place of Publication)</b>					
Examiner Initial	Desig. ID	Document			
	AAP	Costantino Vetriani, Dennis L. Maeder, Nicola tolliday, Kitty S.-P. Yip, Timothy J. Stillman, K. Linda Britton, David W. Rice, Horst H. Klump, and Frank T. Robb, "Protein Thermostability Above 100°C: A Key Role for Ionic Interactions", October, 1998, National Academy of Sciences, Vol. 95, pp. 12300-12305			
	AAQ	Markus Wyss, Roland Brugger, Alexandra Kronenberger, Roland Remy, Rachel Fimbel, Gottfried Oesterhelt, Martin Lehmann, and Adolphus P.G.M. van Loon, February, 1999, Applied and Environmental Microbiology, Vol. 65, No. 2, pp. 367-373			
	AAR	Database accession No. AR130956			
	AAS	Database accession No. AAX26540			
	AAT	Database accession No. P07102			

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FORM PTO-1449

U.S. Department of Commerce Patent and  
Trademark OfficeDocket No.  
DIVER1370-4Serial No.:  
09/580,515

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Applicant(s): Short and Kretz

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANTFiling Date:  
May 25, 2000Group Art Unit:  
1651

JAN 10 2001

## U.S. PATENT DOCUMENTS

EXAM. INITIALS		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
DR	AA	5,593,963	01/14/97	Van Ooijen et al.			11/2/93

## FOREIGN PATENT DOCUMENTS

EXAM. INITIALS		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION (YES/NO)
DR	AB	0 897 985 A2	24.02.99	EP	C12N	15/55	
DR	AC	WO 99/08539	25.02.99	PCT	A23B	7/10	

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)

DR	AD	Altschul et al., "Basic Local Alignment Search Tool," <i>J. Mol. Biol.</i> <b>215</b> :403-410 (1990)
DR	AE	Dassa et al., "The Complete Nucleotide Sequence of the <i>Escherichia coli</i> Gene <i>appA</i> Reveals Significant Homology between pH 2.5 Acid Phosphatase and Glucose-1-Phosphatase," <i>Journal of Bacteriology</i> <b>172</b> (9):5497-5500 (1990)
DR	AF	Pearson and Lipman, "Improved tools for biological sequence comparison," <i>Proc. Natl. Acad. Sci. USA</i> <b>85</b> :2442-2448 (1988)
DR	AG	Pen et al., "Phytase-containing Transgenic Seeds as a Novel Feed Additive for Improved Phosphorus Utilization," <i>Bio/Technology</i> <b>11</b> (7):811-814 (1993)
DR	AH	Rodriguez et al., "Cloning, Sequencing, and Expression of an <i>Escherichia coli</i> Acid Phosphatase/Phytase Gene ( <i>appA2</i> ) Isolated from Pig Colon," <i>Biochemical and Biophysical Research Communications</i> <b>257</b> :117-123 (1999)

EXAMINER

DATE CONSIDERED

3/18/2002

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 2100. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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FORM PTO-1449 US Department of Commerce Patent and Trademark Office	Docket No. DIVER1370-4	Serial No.: 09/580,515
	Applicant(s): Short and Kretz	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date: May 25, 2000	Group Art Unit: 1651

AI	J. Rozas and R. Rozas, "DnaSP, DNA sequence polymorphism: an interactive program for estimating population genetics parameters from DNA sequence data," <i>CABIOS</i> 11(6):621-625 (1995)
AJ	Verwoerd et al., "Phytase-Enriched Transgenic Seeds as a Novel Feed Additive," <i>Med. Fac. Landbouww. Univ. Gent.</i> , 58(4A):1719-1721 (1993)
AK	G. von Heijne, "A new method for predicting signal sequence cleavage sites," <i>Nucleic Acids Research</i> 14(11):4683-4690 (1986)

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